

**ECOLOGICAL DESIGN AND
SUSTAINABLE DEVELOPMENT WORKSHOP**
October 26 & 27, 2000
Odanah, Wisconsin



**Bad River Band of Lake Superior Chippewa
Workshop Summary Report**

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INTRODUCTION

The two-day *Ecological Design & Sustainable Development Workshop*, hosted by the Bad River Tribe, was held on October 26 & 27, 2000 in Odanah, Wisconsin. The Workshop was developed and coordinated by Michael DeMarr, Environmental Specialist for the Bad River Tribe, and staff members, Michelle Connors and Ralph Dashner, in conjunction with Dolly Tong, EPA Tribal Liaison for Region 5, under an EPA grant. The Workshop was facilitated by Patricia Olson and Derk Janssen of Ecological by Design, Prescott, Arizona. Ms. Olson and Mr. Janssen have been involved in similar workshops with the tribes in Region 5 over the past three years under a separate EPA grant., and therefore were familiar with tribal workshops in the Great Lakes Region.

The goal of the Workshop was to provide information regarding practical approaches to designing and implementing community development projects that are environmentally sustainable. The following specific objectives were identified:

- Learn concepts in ecological design and sustainable development
- Acquire techniques to implement sustainable practice - from planning, funding, and design to procurement and construction
- Practice conducting a design charrette on an actual tribal development project - an exercise to stimulate creativity, articulate values, and uncover and opportunities
- Share information and case studies of sustainable development projects with other tribes

Information was shared through overview presentations in the areas of Ecological Design, Sustainable Development, Renewable Energy (photovoltaics and wind), Wastewater Treatment, Funding, Procurement, Rural Development and Working with a Design Team. Each presentation was an approximately 15 minute overview supplemented by written information provided by each presenter in the form of handouts. A question and answer period followed each set of presentations for the topic areas listed above. A short sample design charrette was conducted utilizing the proposed Bad River Elder Center project as the focus of the charrette. The Workshop concluded with a “round-table” sharing and discussion in which tribal members

shared some of their current project experiences and participants offered suggestions for dealing with project development and implementation issues.

THE WORKSHOP: DAY 1

The Workshop began with a Tribal Welcome from Tribal Vice Chair, Mike Wiggins. Mike welcomed all participants and gave his blessing and wishes for a successful and productive event. This was followed by an Opening Circle of introductions by all participants and presenters. Each person gave a brief description of their work and reason for attending, along with their tribal affiliation or business association.

Ecological Design and Sustainable Development

The Workshop presentations began with an overview of Ecological Design and Sustainable Development presented by the Workshop Facilitators, Patricia Olson and Derk Janssen. The tapes recording the specific content of these and other presentations can be obtained by requesting copies from the Bad River Natural Resources Department. Ms. Olson presented ecological design case studies and an overview of the Guiding Principles of Ecological Design. These principles include the following five approaches: *Protect the Natural Environment*, *Design Responsively for the Land and Culture*, *Use Energy and Resources Wisely*, *Enhance Health and Community*, and *Create Beautiful and Economical Environments*. Mr. Janssen presented an overview of Sustainable Development issues including: *Guiding Principles of Sustainable Development*, *Sustainable Planning Techniques*, *Renewable Energy*, and *Green Business Analysis and Future Trends*. These overviews laid the foundation and context for the other presentations on specific areas of Ecological Design and Sustainable Development.

Renewable Energy

The Renewable Energy information focused on photovoltaic (PV) (solar electricity) and wind power, and also information on overall use of renewable energy. Bob Gough, Director of the Rosebud Sioux Tribal Utility Commission, spoke about the adverse affects of global warming and how renewable energy use can slow the onset. Bruno Zagar, Environmental Coordinator for the Oneida Tribe, Wisconsin, spoke about his work with integrating PV systems, passive solar design, and other sustainable design practices into tribal housing projects. He also shared a

video on Oneida Tribal planning/projects, and utilized the Oneida PV and solar hot water trailer. At the workshop breaks, Mr. Zagar demonstrated the PV and solar hot water systems and talked with participants about the educational functions of the trailer.

Debra Tewa, Hopi Tribal Councilperson and Electrician, Hotevilla, Arizona, shared a slide show of her Village and talked about the use of PV systems in her work. Also, she discussed her solar energy work in her Village, which is one of three on the reservation that it still not grid connected. Pat Spears, Sioux Tribal Member and Wind Power expert, South Dakota, shared his work with the development of wind power systems in South Dakota and elsewhere, along with plans to assist other tribes with testing feasibility for the use of wind power and its implementation. Steve Kozak, Faculty with the Lac Courte Oreilles Community College, Wisconsin, presented information on the development of their Community College Sustainable Communities Bachelor's Degree and their proposed Renewable Energy and Sustainable Development Institute.

Wastewater Treatment

Wastewater Treatment information was shared by Dave Flowers and Dean Johnson. Dave Flowers, Consulting Engineer with Round River, Inc., presented information on Living Machines and constructed wetlands for wastewater treatment, including design, implementation and case study examples. Dean Johnson, retired EPA official, presented information on changes in requirements regarding Class V injection wells, which include dry wells, leach fields, septic systems, etc. From these two presentations it was clarified that constructed wetlands under 12,000 gallons/day are the most easily implemented under current regulations.

Design Charrette

A design charrette was held at the end of the first day. The original plan was to conduct a 2-hour session, but that was shortened to 1 hour due to logistical requirements regarding the use of the meeting room. Although the charrette was shortened it still provided an opportunity for the participants to get a "taste" of a design charrette process and experience the value of conducting such an activity as part of the design process for any future projects they are considering. The charrette is an effective way to get many people involved in the design process and acknowledge

and utilize a range of ideas from many stakeholders in the design of a new planning or building project. The design charrette consisted of an explanation of the charrette process and small group brainstorming sessions on specific areas of design concern, in this case *Site Planning*, *Architecture* and *Energy*.

The participants self-selected their groups, each of which was facilitated by a workshop presenter (Site Planning: Patricia Olson; Architecture: Derk Janssen; and Energy: Dave Flowers) and a recorder. Each group was given a large pad of newsprint paper on an easel and colored markers. The groups met for approximately 25 minutes, during which they generated a number of suggestions for design in their area and were asked to prioritize the three most important elements as a group. This was accomplished differently in each group: combining elements to arrive at three overall “themes;” allowing each group member to vote for three choices from their lists; deciding together which were their highest priorities. Overall, the exercise was very successful in terms of all aspects of the goals of a design charrette: participation in co-visioning, discussion, brainstorming, development and prioritization of direction and goals, and gaining community support. The session ended with 5 minute presentations by each group on their ideas and priorities, and the newsprint sheets were given to Mary Maday of the Bad River Tribe for potential future use in development of their Elder Center.

THE WORKSHOP: DAY 2

The second day began with brief summary presentations on *Funding and Procurement* followed by *Rural Development*. In the afternoon a presentation was made on *Working with the Design Team*. A presentation on *Planning* was also scheduled, but that presenter was unable to attend.

Funding and Procurement

This session began with a presentation by Steve Brockman, Director of Solid & Hazardous Waste Education at the University of Wisconsin, who spoke about Environmentally-Preferred Purchasing (EPP). His focus was on how to find goods and services that reduce negative impacts on environmental and human health. He also shared written information on resource suppliers, websites, and actual product samples, which he passed around the room. Mary Maday, Bad River Tribal Grant Writer, shared information on current projects at Bad River,

including the new convenience store and gas station, plans for the new Elder Center, and the need for additional housing. Glen Hall, LCO Tribal Member and Native American Liaison for the Wisconsin Department of Commerce, presented information on available funding, training, and ways for tribes to address economic development with the assistance of the Wisconsin Dept. of Commerce.

Rural Development

Cathy Cartwright, Environmental Engineer for the Rural Community Assistance Program (RCAP), presented information on working with small rural communities (under 3000 population). She stated that their emphasis is on capacity building, e.g., helping communities help themselves. They focus on the areas of water and wastewater treatment funded by EPA grants, including public education, technical assistance, planning assistance, computer software acquisition and training, and funding information and assistance. Their services are provided to communities at no cost. Barbara Brewster, Business and Community Programs Specialist for the U.S. Dept. of Agriculture (USDA), shared information and a variety of written resources on community development assistance through Rural Housing, Rural Utility, and Rural Business and Cooperative Services. They serve as a lending agency for the USDA for non-agricultural funding.

Working with a Design Team

Patricia Olson presented information on conventional versus ecological design approaches to the design process. The emphasis was on how the process is different, and why that is crucial to the development of an ecologically-designed building and/or planning project. The session became an open dialogue as well as a question and answer session with regard to specific concerns from various participants. Many participants were able to offer insights relative to their own experiences in working with design teams. The design team approach consists of the traditional “designers” (the architect and various engineers), but also includes additional necessary members such as future building users and other interested tribal representatives as well as an energy specialist, landscape architect, contractor, and others as required for the specific project. Most importantly, the process is one in which all of the design team members are present at all meetings, if possible, or at least for the first couple of meetings and at all review sessions. This

process of greater inclusion of a full range of design professionals and tribal representation from the beginning of the design process is what will insure that the project will meet the agreed upon goals.

Round-Table: Questions and Answer Session/Sharing Tribal Case Studies

This was an opportunity for dialogue between participants and presenters regarding questions they have about any of the subjects covered and/or their specific tribal projects and planning efforts. It was also an opportunity for participants to share their project experiences with the group. It was a productive session, with many tribal members sharing both experiences and some frustrations that they have encountered in seeking to implement Sustainable Planning and Ecological Design. It was encouraging to hear of the successes in places such as the Oneida reservation from Bruno Zagar. He offered to connect others with his contacts to assist them in dealing with potential roadblocks often encountered, such as HUD approval for alternative materials, construction techniques, and energy systems. Although there are technical hurdles, it seemed as if the bigger issue for most was how to include and account for differences in individual community member preferences and priorities, and to educate tribal members and council on the options available for ecological design. Mr. Zagar suggested that the best way to overcome the difficulties is to create positive “models” and demonstration projects for people to see and experience. This would give them the opportunity to make decisions based on something tangible. This has proven quite successful for the Oneida tribal members. In addition, it was noted by Mike DeMarr that it is important to let the people decide rather than being told what they should do, and Mr. Zagar’s approach would allow for that.

CONCLUSION

Patti’s comments. Overall, the Workshop appears to have been quite successful. The overall organization of the Workshop was excellent, which is attributable to Mr. Michael DeMarr, Workshop Coordinator, who brought the wide array of presenters together. This approach allowed participants to get practical information on a variety of topics from those working in their areas of expertise, and also written information and recommendations for obtaining further information, resources, and contacts.

Hello. This final comment on the workshop is from Mike DeMarr. I agree that the workshop was an overall success. I found that the various participants and attendees provided valuable insight to the practical application of ecological design and sustainable development concepts. I am particularly grateful to Bruno Zagar, Debra Tewa, and Pat Spears. Their input was invaluable and much appreciated. Finally, I believe the good natured learning environment, fostered by Patricia and Derk, complimented the high caliber presenters, resulting in a most excellent workshop.

BRIEF LISTING OF AVAILABLE BIOGRAPHIES

Steven D. Brachman, Co-Director UW-Extension Solid & Hazardous Waste Education Center.

Steven is responsible for providing technical assistance and educational programs for solid and hazardous waste management projects for business and local governments in Wisconsin. Steven has extensive educational programming and management experience on a variety of solid and hazardous waste projects, including solid waste planning, yard waste composting, household hazardous waste collection, office and commercial recycling, and market and business development.

Derk Janssen, M.A., Co-director of *Ecological by Design*.

Co-director of *Ecological by Design*, an environmental consulting company dedicated to ecological design education. With over 15 years of experience in sustainable development and green business, Mr. Janssen has helped pioneer innovative connections between economics, the environment, and education. Recently, he has been involved with two national EPA projects, both focused on sustainable development and planning: the Green Communities Project and the Native American Sustainable Communities Project.

Patricia Olson, M.S., Co-director of *Ecological by Design*.

Patti is a registered Architect with 18 years of professional experience. She has spent the last decade teaching ecological design and is currently completing her Ph.D. in Environmental Design and Planning at Arizona State University. Patti has taught college courses in Ecological

Design, Passive Solar Design, and Healthy Building Design and gives presentations and facilitates workshops on ecological design and sustainable planning.

Debby Tewa, .

Native Sun helps make solar electricity accessible to people on the Hopi Reservation and the neighboring Navajo Reservation. Debby and her colleagues at Native Sun have installed over 320 PV systems. they also provide education. Besides educating the users and owners of the systems she installs, Debby travels around to schools and summer camps teaching Hopi children and teenagers about solar energy. Debby has also traveled to Ecuador to help install photovoltaic systems in an indigenous community in the Andes.

The following Bad River employee's participated in the planning and development of the workshop:

Larry Balber,	Tribal Planner
Michelle Connors	Administrative Assistant
Ralph Dashner	Tribal Environmental Management System Coordinator
Michael DeMarr,	Environmental Specialist
Kim Ford,	Administrative Intern
Mary Maday,	Tribal Grant Writer

The following representatives from various organizations participated:

- Barb Brewster**- Business and Community Specialist, USDA Rural Development
- Bill Brown**- Rural Development Director, WISCAP, Rural Community Assistance Program
- Dave Flowers**-RCAP
- Don Gilmore**-RCAP
- Glenn A. Hall**- Native American Liaison, Wisc. Bureau of Minority Business Development
- Dean Johnson**- USEPA Region 5, U.I.C. Circuit Rider
- Pat Spears**- Intertribal Council on Utility Policy
- Dolly Tong**- USEPA Region 5, Pollution Prevention
- Bruno Zagar**- Environmental Specialist, Oneida Tribe of Indians of Wisconsin

WORKSHOP CONTACT INFORMATION

Core Workshop Group.

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Workshop Attendee's.

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